REMARKS

Claims 4, 6-8, 10, 12 and 14-22 are pending and stand ready for further action on the merits. Claims 1-3, 5, 9, 11 and 13 have been cancelled.

New claims 20-22 recite a range of 13 to 29 carbon atoms for R in formula (II). There is support in the specification by combining the range of "11 to 29" carbon atoms at page 11, line 6 with the range of "13 to 21" carbon atoms at page 11, line 7.

No new matter has been added by way of the above-amendment.

[I] Issues under 35 USC § 103

The Examiner has imposed a new rejection over claims 4, 6-8, 10, 12 and 14-19 under 35 USC § 103(a) as being unpatentable over Kim (US 5,674,897) in view Szoka Jr. et al. (US 4,394,149, hereinafter "Szoka"). Applicants respectfully traverse the rejection.

Applicants respectfully submit that the cited references do not make the instant claims obvious. This is supported by the enclosed Declaration Under 37 C.F.R. §1.132 by one of the co-inventors, Mr. Tadayuki SUZUKI (hereinafter "the Rule 132 Declaration"). Also, even assuming *arguendo* that the instant claims are *prima facie* obvious over the cited references, there is evidence of unexpected results in the present specification that will overcome the *prima facie* case. We will discuss the instant method claims initially. Then, we will follow by discussing both the instant method claims and the product claims together.

[I-A] Method Claims 4, 8 and 19

The instant method claims 4, 8 and 19 are to a "method of activating a plant by applying a plant-activating composition to the plant." Accordingly, the technical area of the cited references is very relevant to the issue of obviousness to the extent that the obviousness analysis requires that the skilled artisan be motivated to look to the references ***to do the method that Applicants have claimed***.

The Examiner relies on Kim as the primary reference. However, Kim teaches compositions which can be used to control nematodes. The Examiner's reasons for finding that the citation of Kim is proper can be found in the following statement:

> Kim teaches a method of applying the composition to plants to control nematodes. Kim does not state that invention activates or promotes plant growth. See abstract, column 4 lines 1-63, column 8 lines 58-65, claims 1-4. However, it is obvious that if the composition is applied to the plant that it would activate plant growth since it is used to control nematodes from destroying plants.

The Examiner indicates that the composition of Kim would aid in controlling of nematodes, and it would follow that by controlling the nematodes, the composition of Kim would help promote plant growth. As noted in the Rule 132 Declaration, it is Mr. SUZUKI's opinion that promoting plant growth (as used in the present claims) and controlling nematodes are separate concepts.

For guidance as to the inventor's intended scope of the instant method of activating a plant, the Examiner's attention is directed to the present specification. It is clear from the present specification, that the inventive plant activating agent shows its effect by aiding in some necessary function for growth of the plant on a cellular level. At page 1, line 13 to page 2, line 1, the present inventors state,

> It is added by the inventors of the invention that the term "plant growth" includes increasing the amount of growth, increasing the weight of a plant on both sides of the aboveground and the underground. Further increasing greenness of leaves in terms of SPAD, increasing the height of grasses, improving harvest or crop, increasing photosynthesis, accelerating growth of green cells, improving absorption of a fertilizer, increasing sugar content and ascorbic acid of leaves and fruit. More in details, it extends to improving: gloss of leaves, rising-up of leaves, firmness of leaves, an increased thickness of leaves, firmness of stem, short joints of stem, thickness of stem, whiteness of root, the number of fine roots, vivacity or strength of grasses or trees, gloss of fruit, size of fruit, fruiting, color of fruit etc.

The Examiner will note that nowhere in this cited passage is there any indication that the instant method is directed to killing nematodes as taught by Kim. Indeed the present specification has many examples showing the improved plant growth in experiments which are free of nematodes in both the control samples and the experimental samples by adding the plant activating agent of Formula (II). In the Rule 132 Declaration, Mr. SUZUKI states that Table A1 shows improved reproductive ability of chlorella cells in a Linsmaier-Skoog medium which is ***free of nematodes*** for both the inventive and comparative examples, and yet there is at least a 27% increase using the esters and acids of inventive Formula (II) over the lower molecular weight acids.

Furthermore, Kim does not teach or suggest that the nematode controlling composition can be used to affect plant growth on a cellular level. In other words, based on the teachings of Kim, the artisan would reasonably believe that there would be no added affect on the plant growth on a cellular level by adding the fatty acid ester of Kim to the composition of Szoka.

According to MPEP 2141, when applying 35 USC 103, the standard with which obviousness is determined is that there must be a **reasonable expectation of success**. Applicants respectfully submit that a *prima facie* case of obviousness cannot be said to exist, since the skilled artisan would not have a reasonable expectation of success that applying the nematode controlling composition of Kim to plants would result in activated plant growth, as presently claimed. Accordingly, withdrawal of the rejection with respect to the method claims 4, 8 and 19 is respectfully requested.

[I-B] Method Claims 4, 8 and 19 and Composition Claims 6, 7, 10, 12 and 14-19

[I-B-i] No Prima Facie Case

Applicants respectfully submit that the combination of references is improper, since the cited references are in a different field of endeavor. Specifically, Kim teaches compositions which can be used to control nematodes, whereas Szoka teaches compositions which are useful as plant nutriments.

The mere fact it is possible for isolated disclosures to be combined does not render the result of that combination obvious absent a logical reason of record which justifies the combination. *In re Regel et al.* (CCPA 1975) 526 F2d 1399, 188 USPQ 136. To properly combine references to reach a conclusion of obviousness, there must be some teaching, suggestion of inference in either or both of the references, or knowledge generally available to one of ordinary skill in the art, *Ex parte Levengood*, 28 U.S.P.Q.2d 1300 (Bd. Pat. App. & Interfer. 1993), which would have led one to combine the relevant teachings of the two references. *Ashland Oil Inc. v. Delta Resins and Refractories, Inc. et al.* (CAFC 1985) 776 F2d 281, 227 USPQ 657. Both the suggestion to make the claimed composition or device or carry out the claimed process and the reasonable expectation of success must be founded in the prior art, not in Applicant's disclosure. *In re Vaeck* (CAFC 1991) 947 F2d 488, 20 USPQ2d 1438.

Applicants RESPECTFULLY submit that the Examiner's reason for combining the references would not be followed by the skilled artisan since it is illogical. The Examiner believes that there is a suggestion of inference to combine the teachings of Kim and Szoka. The Examiner finds that controlling nematodes is equivalent to activating plant growth. The Examiner states, "that if the composition is applied to the plant that it would activate plant growth since it is used to control nematodes from destroying plants." As Mr. SUZUKI states in the Rule 132 Declaration, promoting plant growth and controlling nematodes are separate concepts. Since the artisan would not find that controlling nematodes is equivalent to activating plant growth, the artisan would not combine the references in the manner done by the Examiner. As such, a *prima facie* case of obviousness cannot be said to exist over the combination of Kim and Szoka.

[I-B-ii] Unexpected Results

As noted above, it is Applicants' position that a *prima facie* case of obviousness cannot be said to exist over the combination of Kim and Szoka. However, assuming *arguendo* that a *prima facie* case of obviousness were to exist, the data in the present specification is evidence of the *unexpectedly superior properties* of the inventive composition as plant activating agents which overcomes the obviousness rejection.

The Examiner's attention is directed to the examples in the present specification which show that there is improved growth with the plant activating agent of Formula (II). Specifically, the Examiner's attention is directed to Tables A1 (test of reproductive ability using chlorella cells), A2 (test of hydroponics of tomato seedlings), A3 (test of soil-treatment for tomatoes) and A4 (test of soil-treatment for spinach) on pages 31-34, respectively.

For example, in the Rule 132 Declaration, Mr. SUZUKI states that Table A1 shows improved reproductive ability of chlorella cells in a Linsmaier-Skoog medium which is ***free of nematodes*** for both the inventive and comparative examples, and yet there is at least a 27% increase using the esters and acids of inventive Formula (II) over the lower molecular weight acids. Mr. SUZUKI states that, "This increase in reproductive ability would not be expected based on Kim's teaching which is limited to the affect of the composition on the nematode population."

Of particular note is the evidence in Table A3 (page 33). This table shows the superior properties which are engendered by the combination of a compound of formula (II), $RCOO(AO)_nX^1$, with at least one of a surfactant and a chelating agent, as presently claimed. Comparative Example

A3-3 shows that a composition containing a C8 acid, caprylic acid, and a surfactant has a fresh weight amount of 94 which is much less than the fresh weight of 108 for Inventive Example A3-1 incorporating stearic acid and a surfactant in the test for soil treatment for tomatoes. This caprylic acid (C8 acid) of Comparative Example A3-3 in the present specification is very close in structure to the C9 acid, pelargonic acid (PA), used in the example in Table 1 in column 7, lines 52-55 of Kim.

Based on this evidence in the specification, the skilled artisan would reasonably conclude that the inventive composition comprising a compound of formula (II), $RCOO(AO)_nX^1$, and at least one of a surfactant, fertilizing agent and a chelating agent has ***superior*** plant activating properties for all compounds over the range wherein R represents an alkyl or alkenyl group having 11 to 29 carbon atoms when compared to the explicitly disclosed compounds of Kim. Since Kim's teaching is limited to the use of the fatty acid ester ***without a surfactant, fertilizing agent or chelating agent*** in killing nematodes, the artisan would have no expectation that the fatty acid ester (alone) of Kim would activate plants, as presently claimed.

In view of the fact that Kim (either alone or in combination with Szoka) does not teach or suggest such an improvement in properties based on the size of the fatty acid (ester) and at least one of a surfactant, fertilizing agent and a chelating agent, the inventive composition is unexpected based on the cited art. As such, the *prima facie* case of obviousness is overcome and withdrawal of the rejection is respectfully requested.

Conclusion

In view of the above comments, Applicants respectfully submit that the claims are in condition for allowance. A Notice to such effect is earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact **Garth M. Dahlen, Ph.D., Esq.** (Reg. No. 43,575) at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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Attachment: Rule 132 Declaration by Mr. Tadayuki SUZUKI